

A Survey of Macrolepidopteran Moths Near Vontay, Hanover County, Virginia

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INTRODUCTION

There have only been a few reports of systematic, single-site collections of moths from locations in Virginia or nearby states (Skinner, 1921; Milne & Milne, 1945; Moulding & Madenjian, 1979; Butler & Kondo, 1991; Stein, 1993; Hall, 1999). These studies were conducted over periods ranging from one season to five years and, with the exception of Hall (1999), used one trap method to collect moths. This study, which covered two years and involved multiple collection techniques, was designed to provide a comprehensive list of the macrolepidopteran moth species (= "macro moths" or "macros") found at a single Virginia Piedmont location. This species list, along with others being gathered throughout Virginia by the Virginia Department of Conservation and Recreation's Division of Natural Heritage, is being used to ascertain the biological status of the Commonwealth's macro moths and develop a complete list of Virginia's macros. Macros have been chosen rather than the entire moth fauna because they are generally the larger, more conspicuous moths and are better known. In Virginia, the macros are contained within the following 13 families: Apatelodididae, Arctiidae, Drepanidae, Epiplemlidae, Geometridae, Lasiocampidae, Lymantriidae, Mimallonidae, Noctuidae, Notodontidae, Saturniidae, Sphingidae, and Thyatiridae.

This survey was conducted over 0.8 ha (ca. 2 acres) at the author's residence on the Virginia Piedmont, 2 km W of Vontay in western Hanover County. The terrain is relatively level with gently rolling hills. Soils are circumneutral to acidic, clay-loam mixtures. Vegetation in the vicinity of the study site is primarily second-growth upland hardwood forest of various ages from 12 to 80+ years since timber harvest operations.

The study site is part of a 1,215-2,025 ha (ca. 3,000-5,000 acres) second growth forest which includes upland pine stands and bottomland forests of the South Anna River in addition to upland hardwoods. Elevation at the sampling site is ca. 82 m above sea level. To the author's knowledge, the area's forests have not been treated with pesticides or other chemical or mechanical management that would be detrimental to the lepidopteran fauna.

Plant species at the site are typical of second-growth upland hardwood forests in the region. The most common tree species are white oak (*Quercus alba*), red oak (*Q. rubra*), tulip poplar (*Liriodendron tulipifera*), beech (*Fagus grandifolia*), and flowering dogwood (*Cornus florida*). Other frequent trees include red maple (*Acer rubrum*), southern red oak (*Q. falcata*), post oak (*Q. stellata*), hickory (*Carya* spp.), American holly (*Ilex opaca*), winged elm (*Ulmus alata*), white ash (*Fraxinus americana*), sweet gum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), Virginia pine (*P. virginiana*), black gum (*Nyssa sylvatica*), black locust (*Robinia pseudoacacia*), redbud (*Cercis canadensis*), and eastern redcedar (*Juniperus virginiana*). Common understory woody species include black haw (*Viburnum dentatum*), deerberry (*Vaccinium stamineum*), Japanese honeysuckle (*Lonicera japonica*), greenbrier (*Smilax* spp.), and bramble (*Rubus* sp.). Common herbs of the shaded areas include Christmas fern (*Polystichum acrostichoides*), running cedar (*Diphasiastrum digitatum*), panic grass (*Dichanthelium* spp.), sedges (*Carex* spp.), and partridge pea (*Mitchellia repens*). A powerline right-of-way adjacent to the study site features native warm season grasses including little bluestem (*Schizachyrium scoparium*), broomsedge (*Andropogon virginicus*), and Indian grass (*Sorghastrum nutans*), as well as many forb

species including tick-trefoil (*Desmodium* spp.), bush-clover (*Lespedeza* spp.), bonesets (*Eupatorium* spp.), blazing-star (*Liatris squarrosa*), black-eyed susan (*Rudbeckia hirta*), goldenrod (*Solidago* spp.), and mountain mint (*Pycnanthemum* spp.).

MATERIALS AND METHODS

During 311 nights from 30 October 1996 to 28 October 1998, six methods (baiting, incandescent light, ultraviolet light, mercury vapor light, ultraviolet light trap, and observation without collection) were used to record moths at the study site. Two to four methods were used concurrently on each night. Emphasis was placed on obtaining a species list and not a quantitative sample of macro moth species. Except when temperatures dropped to near or below freezing, sampling was conducted regardless of moon phase and weather conditions.

Baiting was employed on 126 nights from 5 November 1996 to 28 October 1998. The bait consisted of beer, sugar, and crushed bananas along with other ingredients when available, including molasses, grape jelly, red wine, cantaloupe, and watermelon. A ca. 40 x 20 cm patch of the thick liquid mixture was painted on the trunks of 12-18 trees of various species at ca. 1.5 m above the ground. The trees were painted at or prior to sunset and checked 2-5 times during the evening. Trees were also checked in the pre-dawn morning on about 10 occasions. Moths (either macro or conspicuous micro species) believed to be new to the study were caught in a jar and placed in a freezer until killed. They were left in the freezer until they could be pinned.

On 178 nights from 30 October 1996 to 25 September 1998, moths were captured at incandescent lights. The incandescent lights included 1-3 house porch lights with 60 to 100-watt bulbs. On 98 nights from 30 December 1996 to 6 June 1998, moths were captured at black lights. The black lights included 40-watt light bulbs used in one of the porch light fixtures as well as a single 15-watt standard black light fluorescent tube used in conjunction with a white sheet. On 101 nights from 18 March 1998 to the end of the study period, a 160-watt mercury vapor light was used. For all light sources, areas around lights were checked 2-5 times during the evening. They were also checked in the morning on about 50 occasions. As with baiting, if new moths were encountered, they were caught in a jar and placed in a freezer until they could be pinned.

On 13 June 1997, a standard light-trap (Martin, 1978) with a 15-watt standard black light fluorescent tube was used. The trap was operated from dusk until

dawn using ethyl acetate as the killing agent. If moths believed to be new to the study site were encountered, they were pinned. Many of the insects caught in this trap were not killed by the ethyl acetate, resulting in badly rubbed and many completely unidentifiable specimens.

Finally, diurnal and nocturnal observations were used to record a few easily-identified sphinx (Sphingidae) and silk (Saturniidae) moths that were not collected, such as the luna moth, *Actias luna* (L.).

A subset of the pinned moths was spread. All were periodically examined throughout the study period and determinations were assigned by the author with assistance from Douglas C. Ferguson, Paul Z. Goldstein, Stephen P. Hall, Eric L. Quinter, Steven M. Roble, Dale F. Schweitzer, and J. Bolling Sullivan. All but 114 specimen identifications were confirmed by Ferguson, Hall, and/or Schweitzer.

Prior to the study of moths at this site, a complete collection of vascular plant species was gathered from a ca. 4 ha area that includes the smaller area in which the moths were taken.

RESULTS AND DISCUSSION

A total of 1,898 macrolepidopteran moth specimens was pinned and identified during this study. The number of specimens would be much higher if all 30,000+ macro-moths encountered at the lights and bait were taken rather than selecting only moths that appeared to be new to the study. Even with the bias of collecting only moths that appeared to be new, 492 species of macro-moths from 286 genera in 13 families were collected or observed during this study (Table 1 and Appendix). Note that this includes five species which are given the modifier "complex" following their name due to recent revelations by experts that more than one taxon has been included within a commonly-used name (D.F. Schweitzer, pers. comm.). Six species were identified solely by observation records and six additional species identifications were not verified by experts. The Noctuidae (288 species) and Geometridae (94) were most diverse with the Arctiidae (33) and Notodontidae (31) also rich.

Using a checklist of confirmed and possible macro-moths from Virginia (Virginia Division of Natural Heritage, unpubl. data) numbering 1237 species, one estimate of the percentage of the Commonwealth's macrolepidopteran fauna represented at the Vontay site is about 40%. If the Noctuidae of Virginia are similar in richness to the noctuid faunas of Ohio (Rings et al., 1992) and Kentucky (Covell, 1999) with 708 and 616 species, respectively, an estimate of the percentage of the

Table 1. Summary of macro-moths encountered during this study by family given in order of Hodges et al. (1983).

<u>FAMILY</u>	<u>NO. OF GENERA</u>	<u>NO. OF SPECIES</u>	<u>NO. OF SPECIMENS</u>
Thyatiridae	2	2	9
Drepanidae	3	3	6
Geometridae	66	94	345
Epiplemlidae	2	2	4
Mimallonidae	1	1	5
Apatelodididae	2	2	4
Lasiocampidae	4	5	8
Saturniidae	10	11 ^a	10
Sphingidae	11	15 ^b	28
Notodontidae	16	31	127
Arctiidae	17	33	84
Lymantriidae	2	5	21
Noctuidae	150	288	1247
TOTALS	286	492	1898

^a Five species documented by sight records only

^b One species documented by sight record only

Commonwealth's noctuid fauna represented at the Vontay site is about 41 to 47%.

A species-accumulation curve (Fig. 1) for this study indicates that additional macros would be recorded at the site should collections continue. Depending upon the projected trajectory of the curve, estimates of the total number of taxa recorded from this site over 5 years may range from 550-650 macro-moth species. Eliminating bias by collecting all macros encountered would increase the number of taxa recorded. Introducing other collection techniques such as diurnal netting or use of Malaise traps is also likely to increase the total. Due to differences in trap methodology, period, and effort, it is not possible to directly compare the number of species documented during this study to other single-site studies. However, Table 2 presents a comparison of total species per site for macrolepidopteran moths in selected regional studies.

One species found during the study, *Acrionicta albarufa* Grt., represented by a single specimen, is new to the known moth fauna of Virginia. This species is rare throughout its range and was formerly a candidate for listing as a federally endangered or threatened species (U.S. Fish and Wildlife Service, 1994). Although *A. albarufa* ranges over temperate eastern North America west to Colorado and New Mexico (Forbes, 1954;

Schweitzer, 1985), it has only been collected in a handful of states within this range (D.F. Schweitzer, pers. comm.).

Three other species found during this study, *Agnorisma bollii* (Grt.), *Meropleon diversicolor* (Morr.), and *Papaipema eupatorii* (Lyman), are new to the published moth fauna of Virginia. They have all been collected in Virginia during the past decade (Virginia Division of Natural Heritage, unpubl. data). *Agnorisma bollii*, formerly known as *Xestia bollii* has been rarely collected, occurring primarily west of the Appalachians with a few isolated Maryland collections (LaFontaine, 1998). *Meropleon diversicolor* ranges throughout northeastern North America (Ferguson, 1982).

Despite intensive sampling, two Eurasian moth species were not found at the study site. The gypsy moth, *Lymantria dispar* L., a forest pest of the Northeast and northern Virginia has not reached the study site as of this report. *Noctua promuba* (L.), a recent introduction with documented collection sites throughout northeastern North America and Virginia (LaFontaine, 1998; Roble et al., 1999) was also absent.

While many moths recorded during this study were undoubtedly present as larvae at the study site, it is highly probable that a subset of the moths flew in from other areas. The reported larval host plants (Covell, 1984) of a number of the moth species recorded during this study do not occur at the study site. *Bellura anoa* (Dyar) feeds on cattails and wetland herbs and *Baileya doubledayi* (Gn.) feeds on alder, a wetland shrub. The nearest wetland is ca. 0.5 km from the sampling area. Other species are indicative of habitat types that do not occur at the study site and it is probable that they flew in from other areas. Within the Northeast, *Acrionicta albarufa* is a species found in sand barren habitat with stands of bear oak, *Quercus ilicifolia* Wagenh. (Schweitzer, 1985). Any remotely similar habitat is a great distance from the study site.

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Table 2. Comparison of total species of macro-moths documented per site in selected regional studies.

STUDY LOCATION	PERIOD OF STUDY	COLLECTION TECHNIQUES	SAMPLING INTENSITY	NUMBER OF SPECIES	SOURCE
Vontay, Hanover County, Virginia	2 years	sugar bait, incandescent, uv, mercury vapor light, observation without collection	311 trap nights, 2-4 techniques concurrently used, 1898 macros collected	492	This study
Hot Springs, Bath County, Virginia	2 months	incandescent light	Not specified	300	Skinner, 1921
Mountain Lake, Giles County, Virginia	2 summers	tungsten-filament lamps of various colors	Not specified; ca. 12,600 insects collected	149	Milne & Milne, 1945
Hutcheson Memorial Forest, Somerset County, New Jersey	5 years	uv light	293 trap-nights, 22,880 macros collected	410	Moulding & Madenjian, 1979
Cooper's Rock State Forest, Preston and Monongalia Counties, West Virginia	2 years, 7 months	uv light	ca. 90 trap-nights	400	Butler & Kondo, 1991
Burkes Garden, Tazewell County, Virginia	7 months	uv light	Not specified, ca. 1260 macros collected	142	Stein, 1993
Devil's Gut Preserve, Martin County, North Carolina	1 year, 4 months	sugar bait, uv light, diurnal collection	42 trap-nights	347	Hall, 1999

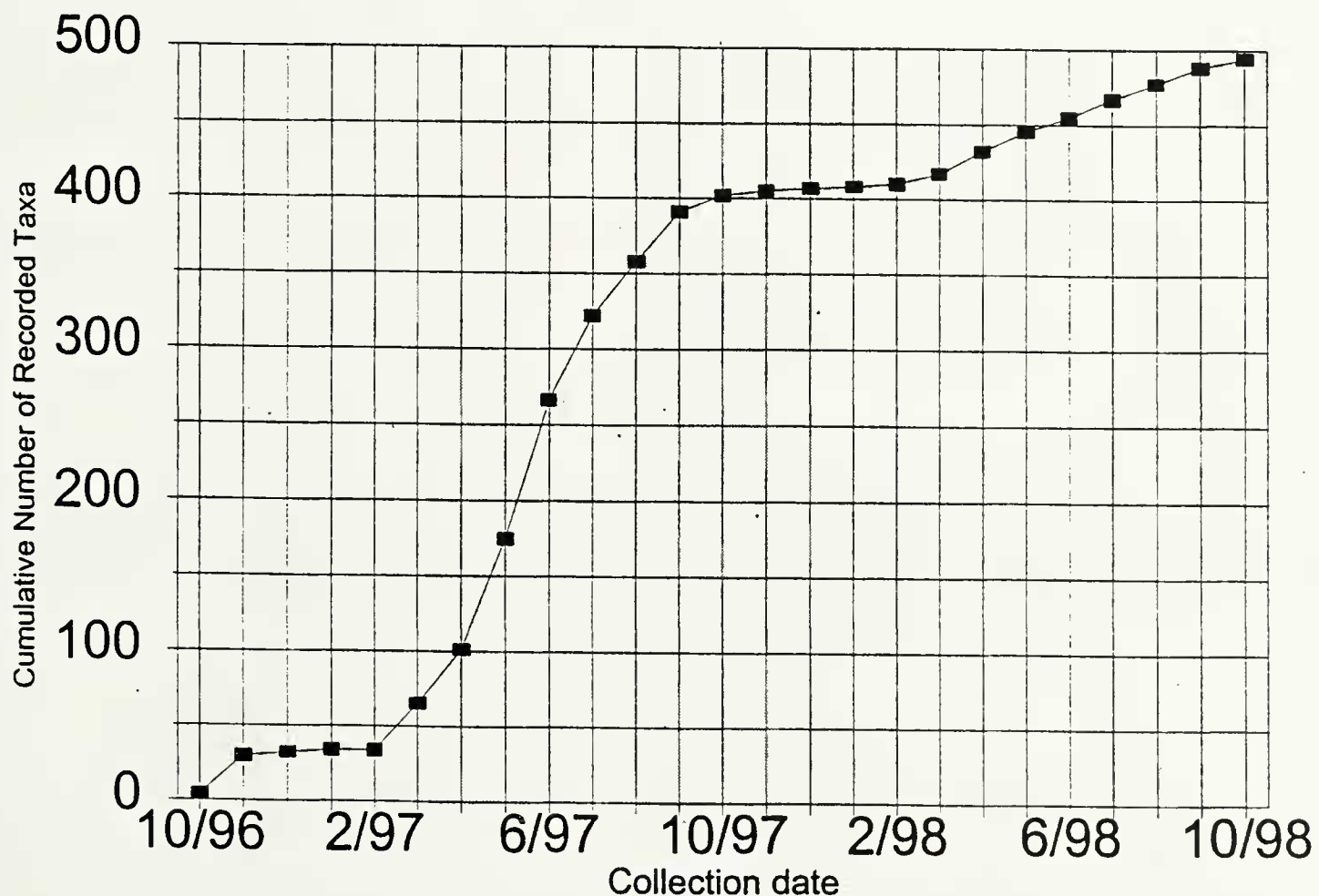


Figure 1. Species accumulation curve for macrolepidopteran moths encountered during this study.

LITERATURE CITED

- Butler, L., & V. Kondo. 1991. Macrolepidopterous moths collected by blacklight trap at Cooper's Rock State Forest, West Virginia: a baseline study. West Virginia University Agricultural and Forestry Experiment Station Bulletin 705. 25 pp.
- Covell, C. V., Jr. 1984. A Field Guide to the Moths of Eastern North America. Houghton Mifflin Co., Boston. 496 pp.
- Covell, C. V., Jr. 1999. The Butterflies and Moths (Lepidoptera) of Kentucky: An Annotated Checklist. Kentucky State Natural Preserves Commission, Scientific and Technical Series 6. 220 pp.
- Ferguson, D. C. 1982. A revision of the genus *Meropleon* Dyar, with descriptions of a new species and subspecies (Lepidoptera: Noctuidae). Entomography 1: 223-235.
- Forbes, W. T. M. 1954. Lepidoptera of New York and Neighboring States. Part III, Noctuidae. Cornell University Agricultural Experiment Station Memoir 329. 433 pp.
- Hall, S. P. 1999. Inventory of the Macro-lepidoptera of the Devil's Gut Preserve. Unpublished Report. North Carolina Natural Heritage Program, Raleigh. 110 pp.
- Hodges, R. W., T. Dominick, D. C. Ferguson, J. G. Franclemont, E. G. Munroe, & J. A. Powell. 1983. Check List of the Lepidoptera of America North of Mexico. E. W. Classey Ltd. & The Wedge Entomological Foundation, London. 284 pp.
- LaFontaine, J. D. 1998. The Moths of America North of Mexico. Fascicle 27.3. Noctuoidea, Noctuidae (Part) Noctuinae (Part - Noctuini). The Wedge Entomological Research Foundation, Washington, D.C. 348 pp.
- Martin, J. E. H. 1978. The Insects and Arachnids of Canada. Part 1. Collecting, Preparing, and Preserving Insects, Mites, and Spiders. Publication 1643. Biosystematics Research Institute, Ottawa, Ontario, Canada. 182 pp.
- Milne, L. J., & M. J. Milne. 1945. Selection of colored lights by night-flying insects. Entomologica Americana 14: 21-86.
- Moulding, J. D., & J. J. Madenjian. 1979. Macrolepidopteran moths light-trapped in a New Jersey oak forest (Lepidoptera). Proceedings of the Entomological Society of Washington 81: 135-144.
- Rings, R. W., E. H. Metzler, F. J. Arnold, & D. H. Harris. 1992. The Owlet Moths of Ohio, Order Lepidoptera, Family Noctuidae. Ohio Biological Survey Bulletin, New Series 9 (2). 219 pp.
- Roble, S. M., A. C. Chazal, C. S. Hobson, & J. C. Ludwig. 1999. First records of *Noctua promuba* L., an Old World moth, in Virginia (Lepidoptera: Noctuidae). Banisteria 14: 45-47.
- Schweitzer, D. F. 1985. White and orange dagger, *Acrionicta albarufa* (Grote). P. 164 In H. H. Genoways & F. J. Brenner (eds.), Species of Special Concern in Pennsylvania. Carnegie Museum of Natural History Special Publication 11. Pittsburgh, PA.
- Skinner, H. 1921. Moths collected at Hot Springs, Virginia (Lepid.). Entomological News 32: 65-71.
- Stein, K. J. 1993. Moth records from Burkes Garden, Virginia. Banisteria 2: 14-17.
- U.S. Fish and Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species. Federal Register 59: 58982-59028.

Appendix. Macro-moth species encountered during this study given in order of Hodges et al. (1983). Fields are: checklist number, species name, collection date (month/day/year), method (s = sugar bait, b = black light, i = incandescent light, m = mercury vapor light, t = trap, o = observation); numbers in parentheses indicate if number of specimens is > 1 for a given date and trap method. A ? is added if the specimen identification was not confirmed by Ferguson, Hall, or Schweitzer.

Thyatiridae

- 06237 *Pseudothyatira cymatophoroides* (Gn.) 07/19/97 s, 07/23/97 s (2), 07/26/97 b, s (2), 08/25/97 b
 06240 *Euthyatira pudens* (Gn.) 04/07/97 i, 04/03/98 m

Drepanidae

- 06251 *Drepana arcuata* Wlk. 04/02/98 m
 06253 *Eudeilinia herminiata* (Gn.) 08/13/97 i
 06255 *Oreta rosea* (Wlk.) 07/13/97 b, 07/28/97 i, 04/30/98 i, 06/24/98 i

Geometridae

- 06258 *Alsophila pometaria* (Harr.) 12/19/97 i (2)
 06261 *Heliomata cycladata* Grt.&Rob. 04/28/97 b, 04/18/98 m
 06270 *Protitame virginalis* (Hulst) 07/14/97 b
 06273 *Itame pustularia* (Gn.) 06/25/97 i, 07/02/97 i
 06322 *Mellilla xanthometata* (Wlk.) 05/01/97 b, 05/02/97 b, 04/08/98 m
 06326 *Semiothisa aemulataria* (Wlk.) 04/06/97 i, 04/12/97 b, 04/30/97 b, 04/08/98 m ?, 04/17/98 m
 06331 *Semiothisa promiscuata* Fgn. 06/18/97 i, 06/30/97 b, 07/23/97 b, 08/13/97 i, 09/08/97 b
 06339 *Semiothisa transitaria* (Wlk.) 09/03/98 m
 06341 *Semiothisa bicolorata* (F.) 06/09/97 i, 07/07/97 i, 05/16/98 i, m, 05/26/98 i
 06352 *Semiothisa granitata* (Gn.) 03/28/97 b, 06/27/97 b, 07/06/97 b, 09/02/97 b, 09/08/97 b,
 09/15/97 b (2), 04/21/98 m, 05/17/98 m, 05/28/98 b,
 05/30/98 b, 06/17/98 m ?, 09/02/98 m
 06353 *Semiothisa multilineata* (Pack.) 05/04/97 i, 05/11/97 i, 05/16/97 b, 05/30/97 i, 06/05/97 i,
 06/06/97 b, 06/08/97 i ?, 06/12/97 i (2), 06/27/97 i ?, 07/02/97 b,
 07/28/97 b, 08/26/97 i, 09/08/97 b, 05/07/98 m, 07/18/98 i ?
 06362 *Semiothisa continuata* (Wlk.) 03/30/97 i
 06386 *Semiothisa ocellinata* (Gn.) 06/09/97 i, 06/27/97 b, 07/22/97 b, 08/16/97 b, 06/07/98 i,
 07/22/98 m
 06443 *Glenoides texanaria* (Hulst) 07/24/97 i, 10/01/97 b, 09/25/98 i
 06449 *Glena cribrataria* (Gn.) 05/22/97 i, 07/30/97 i, 08/14/97 s, 05/07/98 m
 06452 *Glena plumosaria* (Pack.) 06/01/97 i, 05/04/98 m, 05/26/98 i
 06478 *Exelis pyrolaria* Gn. 06/14/97 b, 06/16/97 b, 06/27/97 b
 06486 *Tornos scolopacinaris* (Gn.) 08/14/97 i ?
 06584 *Anacamptodes humaria* (Gn.) 03/28/97 b, 04/10/97 b
 06586 *Anacamptodes defectaria* (Gn.) 10/30/96 i, 01/04/97 i, 07/27/97 b
 06588 *Iridopsis larvaria* (Gn.) 04/30/97 b, 07/28/97 b (2), 04/16/98 m ?, 05/10/98 m
 06590 *Anavitrinella pampinaria* (Gn.) 04/12/97 b, 05/18/97 i, 06/27/97 b, 06/21/98 m
 06594 *Cleora sublunaria* (Gn.) 03/28/98 m, 03/30/98 m (2), 04/03/98 m
 06597 *Ectropis crepuscularia* (D.&S.) 02/28/98 b, 03/19/98 m

Geometridae (continued)

- 06599 *Epimecis hortaria* (F.) 03/29/97 b, 05/25/97 b, 07/25/97 s
- 06620 *Melanolophia canadaria* (Gn.) 03/29/97 b, 04/12/97 b, 04/30/97 b, 05/02/97 b, 05/05/97 i, 06/16/97 s, 07/30/97 i, 08/10/97 i, 03/28/98 b, 04/08/98 m
- 06654 *Hypagyrtis unipunctata* (Haw.) 05/12/97 i, 05/16/97 i (2), 05/27/97 b, 06/05/97 i (2), 07/29/97 b, 09/11/97 b, 04/30/98 i, 05/11/98 m, 07/26/98 m, 08/10/98 m, 08/21/98 m
- 06655 *Hypagyrtis esther* (Barnes) 07/23/97 b, 06/06/98 b, 07/26/98 i
- 06659 *Phigalia denticulata* Hulst 12/30/96 i, 01/04/97 i (3), 12/19/97 i, 02/08/98 i(2), 02/21/98 i
- 06660 *Phigalia strigataria* (Minot) 03/02/97 i (2), 03/21/97 i, 03/28/97 b, 02/25/98 i, 02/28/98 i (2), 03/01/98 i, 03/19/98 m (2)
- 06662 *Paleacrita vernata* (Peck) 12/10/96 i, 12/30/96 i, b, 01/04/97 i, 02/08/98 i, 02/21/98 i?, 02/25/98 i, 04/03/98 m (2)
- 06665 *Erannis tiliaria* (Harr.) 11/24/96 i
- 06667 *Lomographa vestaliata* (Gn.) 04/28/97 i, 04/08/98 m
- 06677 *Cabera erythemaria* Gn. 05/12/97 i
- 06711 *Thysanopyga intractata* (Wlk.) 11/05/96 i, 03/30/97 i (2), 05/07/97 b, 09/01/97 i, 04/25/98 m, 07/02/98 i, 08/01/98 i, 09/22/98 m
- 06720 *Lytrosis unitaria* (H.-S.) 06/18/97 i, 05/28/98 b
- 06721 *Lytrosis sinuosa* Rindge 05/25/97 b (2)
- 06724 *Euchlaena serrata* (Dru.) 06/25/97 b
- 06726 *Euchlaena obtusaria* (Hbn.) 04/18/97 i, 05/22/97 i, 06/01/97 i, 06/05/97 i
- 06729 *Euchlaena johnsonaria* (Fitch) 08/13/97 i
- 06733 *Euchlaena amoenaria* (Gn.) 05/25/97 b
- 06735 *Euchlaena pectinaria* (D.&S.) 04/12/97 b, 04/25/97 i
- 06739 *Euchlaena irraria* (B.&McD.) 07/07/97 i
- 06743 *Xanthotype sospeta* (Drury) 06/01/97 b
- 06754 *Pero hubneraria* (Gn.) 04/11/97 i, 04/28/97 b, 05/01/97 i, 07/29/97 b, i, 08/07/97 b, 04/17/98 m, 04/30/98 m
- 06763 *Nacophora quernaria* (J.E.Sm.) 04/06/97 i, 04/20/98 m
- 06796 *Campaea perlata* (Gn.) 09/05/97 i, 05/17/98 i
- 06797 *Ennomos magnaria* Gn. 10/15/98 m
- 06818 *Selenia kentaria* (Grt. & Rob.) 03/28/97 i (2), 03/30/98 m
- 06822 *Metarranthis duaria* (Gn.) 05/02/97 b, 04/18/98 m
- 06826 *Metarranthis hypocharia* (H.-S.) 06/16/97 i
- 06828 *Metarranthis homuraria* (G.&R.) 05/01/97 i
- 06832 *Metarranthis obfirmaria* (Hbn.) 04/16/98 m
- 06834 *Cepphis decoloraria* (Hulst) 05/05/98 m
- 06836 *Anagoga occiduaria* (Wlk.) 04/30/97 b, 05/11/97 b, 08/10/97 i
- 06837 *Probole alienaria* H.-S. 04/03/97 b, 04/26/97 b, 05/19/97 i, 06/09/97 i, 08/13/97 i, 04/20/98 i, 04/23/98 m, 06/02/98 b
- 06838 *Probole amicaria* (H.-S.) 07/24/97 b, 08/09/97 i
- 06842 *Plagodis phlogosaria* (Gn.) 07/30/97 i
- 06843 *Plagodis fervidaria* (H.-S.) 04/11/97 b, 04/12/97 b, 04/25/97 i, 04/08/98 m

Geometridae (continued)

06844 <i>Plagodis alcoolaria</i> (Gn.)	05/07/97 b, 05/08/97 b, 05/19/97 i, 07/13/97 b, 07/20/97 b, 07/26/97 b, 07/22/98 m
06885 <i>Besma quercivoraria</i> (Gn.)	05/19/97 i, 08/24/97 b, 09/07/98 m
06892 <i>Lambdina pellucidaria</i> (Grt.&Rob.)	05/02/97 b, 05/18/97 b
06894x <i>Lambdina athasaria</i> (Wlk.) complex	03/21/97 i, 03/27/97 i, 03/30/97 i, 04/11/97 i, 05/02/97 b, 07/26/97 i, 08/08/97 i, 03/28/98 m, 04/03/98 m, 04/17/98 m
06941 <i>Eusarca confusaria</i> Hbn.	05/19/97 i, 05/25/97 b, 06/05/97 i, 06/06/97 i, 09/02/97 b, 09/11/97 b
06963 <i>Tetracis crocallata</i> Gn.	05/04/98 m
06964 <i>Tetracis cachexiata</i> Gn.	05/16/97 i, 05/22/97 b, 04/30/98 m
06966 <i>Eutrapela clemataria</i> (J.E.Sm.)	03/17/97 i, 04/25/97 i, 07/22/97 i, 08/20/97 i, 03/30/98 m, 04/01/98 m, 07/06/98 s
06974a <i>Patalene olyzonaria puber</i> (Grt.&Rob.)	10/30/96 i, 11/05/96 i, 06/07/97 i, 06/27/97 b ?, 07/19/97 b, 07/20/97 b, 07/25/97 i, 08/11/97 i, 08/13/97 i, 08/21/97 b, 10/04/97 i, 06/17/98 m
06982 <i>Prochoerodes transversata</i> (Dru.)	11/06/96 s, 06/30/97 b, 07/23/97 b, 09/26/97 i
07033 <i>Nemoria lixaria</i> (Gn.)	05/29/97 b
07046 <i>Nemoria bistriaria bistriaria</i> Hbn.	03/27/97 i ?, 04/03/97 i ?, 04/06/97 i (2) ?, 04/12/97 b (2) ?, 07/21/97 b, 03/28/98 m
07047 <i>Nemoria rubrifrontaria</i> (Pack.)	07/15/97 b
07053 <i>Dichorda iridaria</i> (Gn.)	05/19/97 i, 05/14/98 m
07058 <i>Synchlora aerata</i> (F.)	05/17/98 i
07071 <i>Chlorochlamys chloroleucaria</i> (Gn.)	05/03/97 b, 07/29/97 b, 05/02/98 m
07075 <i>Chloropteryx tepperaria</i> (Hulst)	06/16/97 i, 08/21/98 m
07084 <i>Hethemia pistasciaria</i> (Gn.)	05/30/98 b
07114 <i>Idaea demissaria</i> (Hbn.)	08/09/97 i ?, 08/13/97 i, 09/01/97 s, 06/18/98 m, 08/09/98 m, 08/10/98 m
07132 <i>Pleuroprucha insulsaria</i> (Gn.)	07/20/98 m, 09/25/98 i
07136 <i>Cyclophora packardi</i> (Prout)	05/11/97 i
07146 <i>Haematopis grataria</i> (F.)	06/16/97 b, 08/13/97 i, 09/02/97 b
07159 <i>Scopula limboundata</i> (Haw.)	05/29/97 b, 06/14/97 b, 07/07/97 i, 07/20/97 b, 07/21/97 i, 07/30/97 i, 09/08/97 b, 05/16/98 m ?
07179 <i>Leptostales rubromarginaria</i> (Pack.)	03/28/97 i, 04/12/97 b
07196 <i>Eulithis diversilineata</i> (Hbn.)	07/06/97 b, 07/12/97 i, 07/20/97 b, 10/12/98 m
07237a <i>Hydriomena transfigurata manitoba</i> B.&McD.	04/15/98 m ?
07292 <i>Hydria prunivorata</i> (Fgn.)	06/12/97 i, 06/17/98 m
07390 <i>Xanthorhoe lacustrata</i> (Gn.)	03/20/97 i
07414 <i>Orthonama obstipata</i> (F.)	03/28/97 b, 04/12/97 b ?, 04/28/97 b, 04/08/98 m
07416 <i>Orthonama centrostrigaria</i> (Woll.)	11/19/96 s, 05/02/97 i, 05/29/97 i (2), 06/09/97 i (2), 09/07/97b, 09/18/97 b
07417 <i>Disclisioprocta stellata</i> (Gn.)	09/20/98 m
07440 <i>Eubaphe mendica</i> (Wlk.)	06/01/97 i
07509 <i>Eupithecia herpordana</i> C.&S.	03/09/98 i (2), 03/28/98 m

Geometridae (continued)

- 07647 *Heterophleps triguttaria* H.-S. 08/13/97 i, 08/10/98 m, 08/20/98 m
 07648 *Dypsteris arbortivaria* (H.-S.) 05/10/98 m

Epiplemidae

- 07650 *Callizzia amorata* Pack. 09/02/97 i ?, 05/17/98 m, 06/06/98 b
 07653 *Calledapteryx dryopterata* Grt. 06/16/97 i

Mimallonidae

- 07659 *Lacosoma chiridota* Grt. 06/22/97 b, 07/03/97 b, 07/24/97 i, 06/02/98 b, 06/15/98 i

Apatelodididae

- 07663 *Apatelodes torrefacta* (J.E.Sm.) 07/28/97 i
 07665 *Olceclostera angelica* (Grt.) 07/30/97 i, 08/12/97 i, 05/16/98 m ?

Lasiocampidae

- 07670 *Tolype vellea* (Stoll) 10/11/97 i
 07683 *Artace cribraria* (Ljungh) 07/13/97 b (2)
 07687 *Phyllodesma americana* (Harr.) 04/02/98 m
 07698 *Malacosoma disstria* Hbn. 06/07/98 i (2)
 07701 *Malacosoma americanum* (F.) 05/25/97 b (2)

Saturniidae

- 07704 *Eacles imperialis* (Dru.) 08/01/97 i
 07706 *Citheronia regalis* (F.) 07/16/98 o
 07715 *Dryocampa rubicunda* (F.) 04/25/97 i
 07716 *Anisota stigma* (F.) 07/13/97 b, 06/21/98 m, 07/09/98 m
 07723 *Anisota virginiana* (Dru.) 06/06/97 i, 06/01/98 b
 07730 *Hemileuca maia* (Dru.) 10/25/97 o
 07746 *Automeris io* (F.) 06/16/97 b, 06/26/97 i
 07757 *Antheraea polyphemus* (Cram.) 05/06/97 o
 07758 *Actias luna* (L.) 05/03/97 o
 07765 *Callosamia angulifera* (Wlk.) 09/04/98 m
 07767 *Hyalophora cecropia* (L.) 04/28/98 o

Sphingidae

- 07775 *Manduca sexta* (L.) 08/25/98 m
 07783 *Manduca jasminearum* (Guer.) 06/29/97 b, 07/15/98 m
 07787 *Ceratomia undulosa* (Wlk.) 05/08/97 b
 07789 *Ceratomia catalpae* (Bdv.) 08/24/97 b, 06/24/98 m, 08/06/98 m
 07793 *Paratrea plebeja* (F.) 05/28/98 b
 07816 *Lapara coniferarum* (J.E.Sm.) 07/17/98 m ?, 07/29/98 m
 07821 *Smerinthus jamaicensis* (Dru.) 08/11/98 m
 07824 *Paonias excaecatus* (J.E.Sm.) 07/28/97 i, 08/13/97 i, 06/16/98 m
 07825 *Paonias myops* (J.E.Sm.) 07/06/97 b, 06/13/98 m
 07827 *Laothoe juglandis* (J.E.Sm.) 06/28/97 i, 07/21/97 i

Sphingidae (continued)

- 07853 *Hemaris thysbe* (F.) 07/16/97 o
 07870 *Sphexcodina abbottii* (Swainson) 04/30/98 m
 07871 *Deidamia inscripta* (Harr.) 04/09/98 m, 04/30/98 m
 07885 *Darapsa myron* (Cram.) 06/26/97 i, 07/27/97 b, 06/28/98 m
 07886 *Darapsa pholus* (Cram.) 04/30/97 b, 08/18/97 s, 05/03/98 m, 05/16/98 m

Notodontidae

- 07902 *Datana ministra* (Drury) 07/30/97 i, 07/28/98 m
 07903 *Datana angusii* Grt. & Rob. 06/25/97 i
 07906 *Datana contracta* Wlk. 07/25/97 i
 07907 *Datana integerrima* G. & R. 06/16/98 m
 07908 *Datana perspicua* Grt.&Rob. 07/04/97 b, 07/20/97 b, 07/07/98 m
 07915 *Nadata gibbosa* (J.E.Sm.) 05/07/97 b (2), 06/05/97 i, 06/27/97 b
 07917 *Hyperaeschra georgica* (H.-S.) 04/25/97 i, 05/10/97 i, 07/13/97 b, 04/08/98 m, 04/17/98 m,
 07/24/98 m
 07920 *Peridea angulosa* (J.E.Sm.) 05/17/98 m
 07921 *Peridea ferruginea* Pack. 05/28/98 b, 06/24/98 m
 07929 *Nerice bidentata* Wlk. 04/17/98 m
 07931 *Gluphisia septentrionalis* Wlk. 05/12/97 i (2), 06/15/97 b, 07/23/97 b, 07/24/97 i, 08/07/97 b,
 08/10/97 b, 04/25/98 i, 05/14/98 i, 06/01/98 b, 07/15/98 m,
 08/06/98 m
 07936 *Furcula borealis* (Guer.) 09/02/97 b
 07937 *Furcula cinerea* (Wlk.) 06/16/98 i, 08/06/98 m ?
 07942 *Cerura scitiscrupta* Wlk. 08/21/97 b
 07951x *Symmerista albifrons* (J.E.Sm.) complex 03/27/97 i, 07/13/97 b, 08/11/97 b, 04/12/98 m
 07957 *Dasylophia anguinea* (J.E.Sm.) 06/06/98 i
 07958 *Dasylophia thyatiroides* (Wlk.) 05/27/97 i, 07/14/97 i, 08/13/97 i, 04/18/98 m, 05/16/98 m ?,
 05/17/98 m, 08/20/98 i
 07974 *Misogada unicolor* (Pack.) 06/26/97 b, 07/20/97 b
 07975 *Macrurocampa marthesia* (Cram.) 07/27/97 b, 07/29/97 i, 08/08/97 i, 05/11/98 i, 05/14/98 m ?,
 07/16/98 m, 07/17/98 m ?, 07/28/98 m, 08/21/98 m
 07983 *Heterocampa obliqua* Pack. 07/06/97 b, 07/13/97 b, 07/30/97 i, 06/13/98 m, 07/28/98 m
 07990 *Heterocampa umbrata* Wlk. 08/14/97 i, 08/26/97 i, 05/17/98 m, 06/25/98 m
 07994 *Heterocampa guttivitta* (Wlk.) 06/04/97 i, 07/24/97 i, 07/30/97 i
 07995 *Heterocampa biundata* Wlk. 06/06/97 i, 07/26/97 i, 05/27/98 i
 07998 *Lochmaeus manteo* Doubleday 05/29/97 i, 06/04/97 i, 06/05/97 i (2), 06/15/97 s, 08/10/97 i,
 08/13/97 i, 08/18/97 s, 08/21/97 s (2), 08/25/97 b, 09/02/97 b,
 09/08/97 i, 07/29/98 m
 07999 *Lochmaeus bilineata* (Pack.) 06/05/97 i, 07/06/97 b, 07/28/97 i, 08/10/97 i, 08/26/97 i,
 09/08/97 i, 09/09/97 i, 06/06/98 i, 07/18/98 m, 07/22/98 m
 08005 *Schizura ipomoeae* Doubleday 07/29/97 i, 07/30/97 i, 05/17/98 i ?, 06/17/98 m ?, 07/17/98 m,
 07/24/98 m
 08006 *Schizura badia* (Pack.) 06/16/98 m, 08/20/98 m

Notodontidae (continued)

08007	<i>Schizura unicornis</i> (J.E.Sm.)	04/17/98 m, 6/21/98 m, 07/16/98 m, 08/09/98 m
08011	<i>Schizura leptinoides</i> (Grt.)	06/13/97 t, 07/01/97 i, 07/28/97 i, 07/30/97 i
08012	<i>Oligocentria semirufescens</i> (Wlk.)	06/06/97 i, 07/27/97 i, 08/30/98 m
08017	<i>Oligocentria lignicolor</i> (Wlk.)	05/25/97 b, 05/30/97 i, 06/04/97 i, 06/28/97 i, 07/13/97 b, 08/25/97 b, 05/30/98 b, 06/21/98 m

Arctiidae

08045	<i>Crambidia lithosoides</i> Dyar	07/02/97 b
08046	<i>Crambidia uniformis</i> Dyar	06/16/97 b
8053x	<i>Crambidia cephalica</i> (Grt.&Rob.) complex	08/08/97 i (2), 08/10/97 b, 08/23/98 m
08061	<i>Cisthene kentuckiensis</i> (Dyar)	09/22/97 b
08067	<i>Cisthene plumbea</i> Stretch	09/06/97 b, 09/22/97 b
08072	<i>Cisthene packardii</i> (Grt.)	06/12/97 i, 06/16/97 b, 08/24/97 b
08089	<i>Hypoprepia miniata</i> (Kby.)	07/03/98 i
08090	<i>Hypoprepia fucosa</i> Hbn.	06/16/97 b, 08/11/97 i
08098	<i>Clemensia albata</i> Pack.	05/25/97 b, 09/02/97 b, i, 09/11/97 s, 05/28/98 b (2)
08099	<i>Pagara simplex</i> Wlk.	09/30/97 i, 04/22/98 m, 05/01/98 m
08107	<i>Haploa clymene</i> (Brown)	06/13/97 t (3)
08110	<i>Haploa contigua</i> (Wlk.)	06/27/97 b, 06/29/97 b, 07/06/97 b, 06/13/98 m, 06/16/98 i
08111	<i>Haploa lecontei</i> (Guer.-Meneville)	06/05/97 i
08118	<i>Holomelina opella</i> (Grt.)	06/16/97 b
08121	<i>Holomelina aurantiaca</i> (Hbn.)	05/19/97 b, 07/20/97 b, 07/27/97 b, 09/06/97 b, 09/15/97 b, 09/18/97 b
08129	<i>Pyrrharctia isabella</i> (J.E.Sm.)	05/08/97 b
08131	<i>Estigmene acrea</i> (Dru.)	04/20/98 m
08134	<i>Spilosoma congrua</i> Wlk.	04/30/97 b, i, 07/06/97 b, 08/07/97 b, 08/09/97 i, 04/15/98 m, 04/18/98 m, 07/20/98 m
08140	<i>Hyphantria cunea</i> (Dru.)	05/03/97 i, 05/07/97 i, 05/18/97 b, 05/29/97 b, 06/06/97 i, 07/13/97 b, 09/02/97 b
08146	<i>Ecpantheria scribonia</i> (Stoll)	07/06/97 b
08170	<i>Apantesis vittata</i> (F.)	08/21/98 m
08171	<i>Apantesis nais</i> (Dru.)	04/16/98 m
08171x	<i>Apantesis carlotta</i> Ferguson	07/21/97 b, 08/08/97 i, 09/07/98 m, 09/15/98 m ?, 09/30/98 m
08176	<i>Grammia anna</i> (Grt.)	06/05/97 i
08188	<i>Grammia figurata</i> (Dru.)	08/13/97 i, 06/12/98 m, 08/30/98 m
08196a	<i>Grammia parthenice intermedia</i> (Stretch)	09/14/97 i, 09/10/98 m
08197	<i>Grammia virgo</i> (L.)	09/02/97 i
08199	<i>Grammia arge</i> (Dru.)	08/14/97 i, 04/01/98 m
08203	<i>Halysidota tessellaris</i> (J.E.Sm.)	06/26/97 i, 05/16/98 i
08230	<i>Cycnia tenera</i> Hbn.	05/07/97 b, 06/07/97 i, 05/17/98 m
08231	<i>Cycnia oregonensis</i> (Stretch)	06/18/97 b
08238	<i>Euchaetes egle</i> (Dru.)	07/27/97 b, 07/11/98 m
08267	<i>Cisseps fulvicollis</i> (Hbn.)	08/14/97 i

Lymantriidae

- 08292 *Dasychira tephra* Hbn. 06/09/98 i
 08296 *Dasychira basiflava* (Pack.) 06/07/97 i ?, 06/14/97 b, 08/28/98 m
 08302 *Dasychira obliquata* (Grt.&Rob.) 07/22/97 i, 08/08/97 i, 08/10/97 i, 08/21/97 b
 08314 *Orgyia definita* Pack. 11/05/96 i, 07/20/97 b, 10/04/97 i, 10/27/97 i
 08316 *Orgyia leucostigma* (J.E.Sm.) 10/30/96 i, 11/05/96 i (3), 11/07/96 i, 07/13/97 b, 09/16/97 i,
 10/09/97 i, 08/02/98 m

Noctuidae

- 08322 *Idia americalis* (Gn.) 11/05/96 i, 11/06/96 s(2), 08/17/97 s, 09/15/97 s, 10/19/98m?
 08323 *Idia aemula* Hbn. 11/06/96 s (3), 11/07/96 s, 11/18/96 s, 05/08/97 b, 06/05/97 b,
 06/12/97 i
 08327 *Idia forbesi* (French) 06/06/97 s, 06/15/97 s
 08328 *Idia julia* (B.&McD.) 06/12/97 s, 06/15/97 s, 06/16/97 i, 08/25/97 s, 09/11/97 s
 08333 *Idia denticulatus* (Harv.) 06/26/97 i, 07/13/97 s, 07/19/97 s, 08/07/97 s, 07/17/98 s
 08334 *Idia lubricalis* (Gey.) 06/26/97 s, 07/06/97 s, 07/20/97 b, 07/02/98 s
 08338 *Phalaenophana pyramusalis* (Wlk.) 05/19/97 b, 07/29/97 i, 05/01/98 m, 07/04/98 m
 08340 *Zanclognatha lituralis* (Hbn.) 08/02/98 m
 08345 *Zanclognatha laevigata* (Grt.) 07/29/98 s
 08347 *Zanclognatha obscuripennis* (Grt.) 05/08/97 b (2), 05/18/97 i, 06/01/97 b, 06/08/97 i, 07/24/97 b,
 07/29/97 b, 08/07/97 s, 08/18/97 i, 07/26/98 s, 08/09/98 s ?,
 09/12/98 s ?
 08348 *Zanclognatha pedipilalis* (Gn.) 07/19/97 s
 08349 *Zanclognatha protumnusalis* (Wlk.) 07/02/97 i ?
 08351 *Zanclognatha cruralis* (Gn.) 05/29/97 b, 06/02/97 b, 09/04/97 s
 08355 *Chytolita morbidalis* (Gn.) 06/05/97 i, 06/06/97 s, 05/17/98 m
 08356 *Chytolita petrealis* Grt. 05/25/97 b, 08/01/97 i
 08358 *Macrochilo litophora* (Grt.) 06/12/97 i, 06/14/97 i
 08364 *Phalaenastola larentioides* Grt. 05/18/97 b, 05/29/97 b, 07/14/97 i, 07/20/97 b (2), 08/10/97 b,
 09/06/97 b, 09/27/97 b, 05/17/98 m
 08366 *Tetanolita mynesalis* (Wlk.) 05/19/97 b, 05/27/97 b, 07/20/97 b, 09/02/97 b, 09/15/97 b,
 09/22/97 b, 09/27/97 b
 08368 *Tetanolita floridana* (Sm.) 07/10/97 i, 09/01/97 s, 08/11/98 s
 08370 *Bleptina caradrinalis* Gn. 05/08/97 b, 06/09/97 b, 08/10/97 s, 08/18/97 s, 09/24/97 s,
 05/04/98 m, 08/10/98 s
 08378 *Renia salusalis* (Wlk.) 06/09/97 s
 08381.x *Renia* sp. near *discoloralis* Gn. 06/12/97 i, 06/18/97 s, 07/04/97 i, 08/07/97 i, 08/24/97 b,
 09/01/97 s, 09/06/97 s, 09/07/97 s, 09/09/97 i, 09/11/97 s,
 09/22/97 s, 09/29/97 s, 10/06/97 b, 07/09/98 s, 07/26/98 s (2),
 08/01/98 s
 08384.1 *Renia flavipunctalis* (Gey.) 07/19/97 s
 08385 *Renia fraternalis* Sm. 06/01/97 i
 08387 *Renia sobrialis* (Wlk.) 08/21/97 s, 08/24/97 s, 09/01/97 s
 08393 *Lascoria ambigualis* Wlk. 04/11/97 i, 04/12/97 i, 04/30/97 b, 05/18/97 i
 08397 *Palthis angualis* (Hbn.) 04/28/97 b, 06/18/97 b, 09/24/97 s

Noctuidae (continued)

08398 <i>Palthis asopialis</i> (Gn.)	06/16/97 i, 09/28/97 i, 10/05/97 i
08401 <i>Redectis vitrea</i> (Grt.)	08/11/97 i
08404 <i>Rivula propinquais</i> Gn.	04/26/98 m
08426 <i>Dyspyralis illocata</i> Warr.	08/10/98 s, 08/21/98 s
08427 <i>Dyspyralis punticosta</i> (Sm.)	07/25/97 s
08428 <i>Dyspyralis nigella</i> (Stkr.)	07/21/97 b, 07/16/98 m
08430 <i>Parahypenodes quadralis</i> B.&McD.	08/09/98 s
08440 <i>Nigetia formosalis</i> Wlk.	09/07/97 i, 09/15/97 s
08441 <i>Bomolocha manalis</i> (Wlk.)	09/07/97 i
08442 <i>Bomolocha baltimoralis</i> (Gn.)	04/06/97 b, 05/07/97 b, 07/03/97 i, 08/08/97 i
08443 <i>Bomolocha bijugalis</i> (Wlk.)	04/26/97 i, 05/11/97 i, 08/25/97 s, 04/16/98 m ?, 05/10/98 m, 07/17/98 m
08444 <i>Bomolocha palparia</i> (Wlk.)	06/13/97 t
08445 <i>Bomolocha abalienalis</i> (Wlk.)	04/29/97 b, 05/02/97 b, 09/02/97 b, 06/14/98 m
08446 <i>Bomolocha deceptalis</i> (Wlk.)	07/06/97 b, 06/14/98 m
08447 <i>Bomolocha madefactalis</i> (Gn.)	08/07/97 b, 05/17/98 m, 06/17/98 i, 07/17/98 m, 07/22/98 m
08465 <i>Plathypena scabra</i> (F.)	11/05/96 i (2), 11/07/96 i, 11/18/96 s, 11/19/96 s, 12/01/96 s (2), 12/30/96 s (2), 05/19/97 i, 05/29/97 i, 06/09/97 i, 07/02/97 i, 07/04/97 i, 07/12/97 i, 08/10/97 i, 09/02/97 b, 09/27/97 b, 02/08/98 i, 05/03/98 m, 05/29/98 b
08479 <i>Spargaloma sexpunctata</i> Grt.	05/07/97 i, 05/08/97 b, 06/08/97 i, 05/11/98 m, 05/14/98 m
08490 <i>Pangrapta decoralis</i> Hbn.	05/12/97 i, 05/25/97 i, 06/09/97 s, 06/15/97 s, 06/16/97 b, 07/26/97 b, 09/02/97 s, 06/11/98 i, 06/14/98 i ?, 07/22/98 m
08493 <i>Isogona tenuis</i> (Grt.)	07/25/97 s, 07/27/97 i, 06/21/98 m ?, 08/23/98 m
08499 <i>Metalectra discalis</i> (Grt.)	06/09/97 s (2), 06/12/97 s, 06/14/97 i, s, 06/15/97 s, 09/07/97 i, s, 10/08/97 s
08500 <i>Metalectra quadrisignata</i> (Wlk.)	06/06/97 s (2), 06/16/97 s, 06/27/97 s, 07/12/97 s, 09/04/97 s, 09/11/97 s, 07/17/98 s, 07/26/98 s
08502 <i>Metalectra tantillus</i> (Grt.)	07/20/97 b, 07/18/98 m
08505 <i>Metalectra richardsi</i> Brower	09/14/98 m
08509 <i>Arugisa latiorella</i> (Wlk.)	07/26/98 m
08514 <i>Scolecocampa liburna</i> (Gey.)	06/29/97 i, 07/06/97 b
08525 <i>Phyprosopus callitrichoides</i> Grt.	05/18/97 b, 5/10/98 i
08528 <i>Hypsoropha hormos</i> Hbn.	07/13/97 b, 08/08/97 i, 08/20/97 i, 05/27/98 b, 06/17/98 m ?
08534 <i>Plusiodonta compressipalpis</i> Gn.	05/14/98 m (2)
08536 <i>Calyptra canadensis</i> (Bethune)	06/01/97 i, 08/10/97 s
08574 <i>Anticarsia gemmatalis</i> Hbn.	10/01/97 s, 09/26/98 m, 10/10/98 s, 10/13/98 m (2)
08587 <i>Panopoda rufimargo</i> (Hbn.)	06/01/97 b (2), 07/02/97 i, 07/06/97 b, 07/21/97 b, 07/30/97 i, 08/24/97 s, 09/02/97 b
08588 <i>Panopoda carneicosta</i> Gn.	06/01/97 i, 06/29/97 b, 04/26/98 m
08591 <i>Phoberia atomaris</i> Hbn.	03/01/97 b, 03/10/97 i (2)
08592 <i>Cissusa spadix</i> (Cram.)	04/11/97 i

Noctuidae (continued)

08651 <i>Lesmone detrahens</i> (Wlk.)	05/30/97 i, 06/01/97 i, 06/14/97 s, 06/22/97 i, 07/09/97 s, 07/26/97 s, 07/29/97 s, 08/14/97 s, 08/17/97 s, 10/01/97 b, 05/07/98 m, 07/14/98 s ?, 09/04/98 m
08689 <i>Zale lunata</i> (Dru.)	11/06/96 s (6), 04/07/97 i, 06/12/97 s, 07/22/97 s
08692 <i>Zale galbanata</i> (Morr.)	06/12/97 s, 07/20/97 s, 07/25/97 s, 07/27/97 s, 04/16/98 m, 06/24/98 s, 07/06/98 s, 07/20/98 s
08694 <i>Zale aeruginosa</i> (Gn.)	04/12/97 b (2)
08695 <i>Zale undularis</i> (Dru.)	06/22/97 s, 07/19/97 s, 05/29/98 s
08697 <i>Zale minerea</i> (Gn.)	04/28/97 b, 07/28/97 s
08704 <i>Zale helata</i> (Sm.)	05/25/97 b, 04/16/98 i, 05/01/98 i
08705 <i>Zale bethunei</i> (Sm.)	04/03/97 i, 04/01/98 m
08707 <i>Zale metatoides</i> McD.	05/03/98 m, 06/14/98 s, 06/20/98 m
08713 <i>Zale lunifera</i> (Hbn.)	03/21/97 b, 03/27/98 m, 04/19/98 m
08716 <i>Zale unilineata</i> (Grt.)	03/28/97 s, 05/08/97 i
08717 <i>Zale horrida</i> Hbn.	05/11/97 i
08719 <i>Euparthenos nubilis</i> (Hbn.)	05/25/97 b, 06/12/97 s, 07/22/97 s
08721 <i>Allotria elonympha</i> (Hbn.)	06/12/97 s (2), 06/22/97 b, 07/29/97 s, 08/25/97 s, 09/01/97 s, 07/16/98 m
08727 <i>Parallelia bistrariis</i> Hbn.	05/08/97 b, 05/22/97 i, 08/07/97 s, 05/07/98 i
08733 <i>Caenurgia chloropha</i> (Hbn.)	08/25/97 s, 09/24/97 s
08738 <i>Caenurgina crassiuscula</i> (Haw.)	07/23/97 b, 07/28/97 b, 09/02/97 b, 09/06/97 s, 09/11/97 s
08739 <i>Caenurgina erechtea</i> (Cram.)	06/18/97 b, 07/20/97 s, 07/26/97 s, 09/30/97 i, 09/14/98 m ?
08743 <i>Mocis latipes</i> (Gn.)	10/13/97 s
08745 <i>Mocis texana</i> (Morr.)	05/19/97 i, 05/29/97 b, 07/29/97 s, 04/30/98 m, 05/17/98 m
08747 <i>Celiptera frustulum</i> Gn.	05/30/97 i, 06/07/97 s (2), 06/12/97 s, 06/27/97 b, 05/01/98 m, 07/29/98 s
08764 <i>Argyrostotis anilis</i> (Dru.)	08/24/97 s
08769 <i>Spiloloma lunilinea</i> Grt.	06/29/97 b, 07/11/98 s
08770 <i>Catocala innubens</i> Gn.	07/01/97 s, 07/14/97 s, 07/27/97 s, 08/10/97 s, 07/14/98 s
08771 <i>Catocala piatrix</i> Grt.	09/27/97 s (2), 10/18/97 i, 08/22/98 m, 09/22/98 s
08773 <i>Catocala epione</i> (Dru.)	07/28/97 s, 06/25/98 i
08782 <i>Catocala flebilis</i> Grt.	07/09/98 s
08792 <i>Catocala vidua</i> (J.E.Sm.)	08/21/97 s, 09/02/97 b, 09/22/97 s, 10/19/98 s
08794 <i>Catocala lacrymosa</i> Gn.	09/27/97 s, 08/06/98 m
08798 <i>Catocala neogama</i> (J.E.Sm.)	08/21/97 s, 09/06/97 s, 09/08/97 s, 07/06/98 s, 07/26/98 s
08801 <i>Catocala ilia</i> (Cram.)	06/26/97 s, 06/28/97 s, 07/01/97 s, 07/20/97 s, 07/26/97 s, 08/10/97 s (2), 08/24/97 s, 09/06/97 s, 10/01/97 s, 06/21/98 s, 06/25/98 m, 07/16/98 s (2), 07/29/98 s, 08/21/98 s
08801.x <i>Catocala</i> sp. near <i>ilia</i> (Cram.)	08/21/97 s
08802 <i>Catocala cerogama</i> Gn.	08/11/97 s, 09/07/97 s
08847 <i>Catocala gracilis</i> Edw.	07/17/98 m
08849 <i>Catocala andromedae</i> Gn.	07/13/97 b

Noctuidae (continued)

- 08851 *Catocala coccinata* Grt. 07/21/97 s, 07/11/98 m
08857 *Catocala ultronia* (Hbn.) 06/27/97 s, 07/19/97 s, 06/21/98 m
08864 *Catocala grynea* (Cram.) 06/27/97 b, 07/27/97 b, 6/25/98 i
08872 *Catocala clintoni* Grt. 06/16/97 s
08878 *Catocala amica* (Hbn.) 07/27/97 s
08878.1 *Catocala lineella* Grt. 07/04/98 s
08887 *Trichoplusia ni* (Hbn.) 10/30/96 i, 08/21/97 s, 08/30/98 m
08889 *Agrapha oxygramma* (Gey.) 09/16/98 m
08890 *Pseudoplusia includens* (Wlk.) 09/02/97 b, 09/07/97 b, 09/28/97 i, 10/11/97 s, 08/30/98 m
08898 *Allagrapha aerea* (Hbn.) 08/07/97 i, 07/09/98 m ?
08907 *Autographa biloba* (Steph.) 07/22/98 m
08908 *Autographa precatationis* (Gn.) 04/03/97 i, 05/04/97 i, 07/10/97 i, 07/25/97 i, 04/08/98 m,
06/26/98 m, 07/17/98 m, 07/26/98 m, 07/29/98 m
08924 *Anagrapha falcifera* (Kby.) 04/02/98 m, 05/26/98 i ?
08955 *Marathyssa inficita* (Wlk.) 06/19/97 i, 06/27/97 b
08957 *Paectes oculatrix* (Gn.) 07/15/98 m, 08/21/98 m ?
08959 *Paectes pygmaea* Hbn. 06/16/97 b, 07/28/97 i, 06/02/98 b, 06/14/98 m
08962 *Paectes abrostoloides* (Gn.) 11/07/96 s, 05/29/97 i, 07/28/97 i, 08/21/97 s, 04/02/98 m,
07/28/98 m, 08/02/98 s ?, 09/16/98 m ?
08969 *Baileya doubledayi* (Gn.) 04/21/98 i
08970 *Baileya ophthalmica* (Gn.) 05/29/97 b (2), 05/30/97 i
08971 *Baileya dormitans* (Gn.) 05/18/97 b, 04/03/98 m, 07/17/98 m
08973 *Baileya australis* (Grt.) 07/28/97 i, 08/14/97 i, 04/26/98 m, 05/04/98 m
08975 *Nycteola frigidana* (Wlk.) 03/28/98 m
08983 *Meganola phylla* (Dyar) 05/02/97 b, 05/25/97 b, 08/01/97 i, 04/25/98 m, 05/17/98 m
08983.2 *Meganola spodia* Franc. 05/26/98 m, 05/28/98 b
08990 *Nola cilicoides* (Grt.) 07/07/97 i, 07/09/98 m
08996 *Nola clethrae* Dyar 06/01/97 i
09025 *Oruza albocostaliata* (Pack.) 06/16/97 b, 08/23/98 m
09037 *Hyperstrotia pervertens* (B.&McD.) 04/29/97 i, 06/12/97 i, 07/07/97 i, 08/13/97 i, 07/13/98 m
09038 *Hyperstrotia villificans* (B.&McD.) 05/08/97 i, 05/29/97 b, 06/13/97 t, 06/18/97 i, 05/17/98 m
09040 *Hyperstrotia secta* (Grt.) 07/21/97 b, 07/26/97 b, 07/29/97 b, 08/08/97 i, 08/11/97 b,
08/24/97 b, 05/01/98 m, 05/10/98 m, 08/16/98 m
09044 *Thioptera nigrofimbria* (Gn.) 06/01/97 i, 06/09/97 i, 09/11/97 b
09047 *Lithacodia muscosa* (Gn.) 05/19/97 i, 06/14/97 b, 06/16/97 b, i, s, 06/26/97 i, 07/01/97 b,
08/10/97 b, 08/13/97 i, 08/18/97 i, 08/21/97 s, 09/06/97 b,
09/07/97 b, 09/11/97 b, 05/26/98 i ?, 06/24/98 m
09049 *Pseudostrotia synochitis* (Grt.&Rob.) 05/29/97 i, 06/16/97 b, 07/03/97 b, 05/17/98 m
09051 *Lithacodia musta* (Grt.&Rob.) 06/13/97 t, 06/14/97 b, 07/25/97 b, 08/09/97 i, 07/04/98 m,
07/15/98 m, 07/20/98 m ?
09053 *Pseudostrotia carneola* (Gn.) 05/25/97 b, 06/09/97 s, 08/07/97 i
09057 *Homophoberia apicosa* (Haw.) 08/24/97 s, 08/11/98 s
09062 *Cerma cerintha* (Tr.) 06/17/97 b, 07/21/97 b

Noctuidae (continued)

09065 <i>Leuconycta diptheroides</i> (Gn.)	05/18/97 i, 07/29/97 b, 04/26/98 i
09085 <i>Tarachidia semiflava</i> (Gn.)	08/07/97 b
09095 <i>Tarachidia erastrionides</i> (Gn.)	07/26/97 b, 07/27/97 b
09127 <i>Spragueia leo</i> (Gn.)	07/20/97 b, 07/27/97 i
09169 <i>Bagisara rectifascia</i> (Grt.)	05/25/97 b, 06/01/97 i, 07/26/97 i, 05/29/98 b
09182.x <i>Panthea</i> sp. near <i>furcilla</i> (Pack.)	08/07/97 b
09184 <i>Colocasia flavicornis</i> (Sm.)	03/28/97 b (2), 03/30/97 i (2), 04/03/97 b, 08/08/97 i, 08/12/97 i, 03/30/98 m, 05/17/98 m, 08/16/98 m ?
09189 <i>Charadra deridens</i> (Gn.)	06/05/97 i, 07/13/97 b, 06/11/98 I, 08/16/98 m, 08/21/98 m
09199 <i>Acronicta rubricoma</i> Gn.	04/17/98 m, 04/18/98 m
09200 <i>Acronicta americana</i> (Harr.)	06/22/97 b, 07/13/97 s(2), 07/24/97 i, 07/26/97 b, 07/28/97 b, 06/21/98 m, 08/10/98 m
09208 <i>Acronicta betulae</i> Riley	06/15/97 s, 08/12/97 s, 08/21/97 s, 07/18/98 m
09216 <i>Acronicta albarufa</i> Grt.	08/11/98 m NEW STATE RECORD
09225 <i>Acronicta vinnula</i> (Grt.)	08/24/97 s, 05/04/98 m, 06/21/98 m, 07/26/98 s, 08/01/98 s
09227 <i>Acronicta laetifica</i> Sm.	06/16/98 m, 06/20/98 m, 07/29/98 s
09229 <i>Acronicta hasta</i> Gn.	05/25/97 b, 06/16/97 s, 07/23/97 s, 08/18/97 s, 09/06/97 b, 04/17/98 m, 04/21/98 m
09236 <i>Acronicta morula</i> Grt.&Rob.	08/17/97 s, 07/29/98 m
09237 <i>Acronicta interrupta</i> Gn.	06/14/97 i, 07/19/97 s, 05/30/98 b
09238 <i>Acronicta lobeliae</i> Gn.	05/08/97 b
09243 <i>Acronicta ovata</i> Grt.	07/13/97 s ?, 07/20/97 b, 07/25/97 b, 07/26/97 s ?, 08/14/97 s
09244 <i>Acronicta modica</i> Wlk.	05/03/97 b, 05/18/97 b, 06/06/97 i, 06/07/97 i, 06/12/97 s (2), 06/14/97 b, 06/15/97 s, 08/10/97 s, 04/21/98 m, 04/25/98 m, 05/01/98 m, 05/03/98 m, 05/04/98 m, 05/11/98 m, 05/26/98 m, 06/17/98 m, 07/26/98 s
09250x <i>Acronicta inclara</i> Sm. complex	04/26/97 i, 05/18/97 b, 05/25/97 b, 05/29/97 b, 06/09/97 s, 06/18/97 s, 07/13/97 b, 07/24/97 i, 07/28/97 b, 07/30/97 i, 09/02/97 b, 09/06/97 s, 09/11/97 s, 05/03/98 m, 05/04/98 m, 06/16/98 m, 07/13/98 m, 08/22/98 m
09251 <i>Acronicta retardata</i> (Wlk.)	07/25/97 b, 05/03/98 m
09254 <i>Acronicta afflictata</i> Grt.	08/21/97 s, 05/28/98 b, 06/24/98 m
09257 <i>Acronicta impleta</i> Wlk.	04/30/97 b, 07/20/97 b, 08/10/97 s, 09/06/97 s, 04/22/98 m, 04/30/98 m, 07/14/98 s, 08/07/98 m
09259 <i>Acronicta noctivaga</i> Grt.	05/03/97 i, 07/23/97 s, 07/29/97 s
09264 <i>Acronicta longa</i> Gn.	08/24/97 s, 04/15/98 m, 07/26/98 s
09266 <i>Acronicta lithospila</i> Grt.	08/12/97 b, 09/08/97 b, 04/30/98 m
09281 <i>Agriopodes fallax</i> (H.-S.)	06/01/97 b, 05/16/98 m
09284 <i>Agriopodes teratophora</i> (H.-S.)	07/01/97 b, 07/22/98 m
09285 <i>Polygrammate hebraeicum</i> Hbn.	04/12/97 b, 07/16/98 m
09299 <i>Eudryas unio</i> (Hbn.)	06/16/97 b
09301 <i>Eudryas grata</i> (F.)	07/01/97 b
09332 <i>Apamea vulgaris</i> (G.& R.)	06/12/97 s

Noctuidae (continued)

- 09348 *Apamea amputatrix* (Fitch) 08/12/97 b
- 09404 *Oligia modica* (Gn.) 08/22/97 i, 08/25/97 b, 09/06/97 b, 09/11/97 s, 09/29/97 s,
09/01/98 s, 09/01/98 s ?
- 09427 *Meropleon diversicolor* (Morr.) 09/26/97 i
- 09454 *Amphipoea velata* (Wlk.) 06/16/97 s, 06/18/97 b, 06/22/97 s
- 09456 *Amphipoea interoceanica* (Sm.) 07/19/97 b ?
- 09466 *Papaipema cataphracta* (Grt.) 11/06/97 i
- 09484 *Papaipema rutila* (Gn.) 09/23/97 i
- 09485 *Papaipema baptisiae* (Bird) 09/25/97 s, 09/30/98 m
- 09496 *Papaipema nebris* (Gn.) 09/15/98 m
- 09501 *Papaipema eupatorii* (Lyman) 11/09/97 i, 10/19/98 m, 10/21/98 m
- 09505 *Papaipema cerussata* (Grt.) 10/27/97 i, 10/13/98 m
- 09526c *Bellura anoa* (Dyar) 07/29/98 m
- 09545 *Euplexia benesimilis* McD. 08/24/97 s
- 09547 *Phlogophora periculosa* Gn. 09/04/97 s, 09/21/97 s, 09/22/97 s, 09/13/98 s, 10/11/98 s
- 09556 *Chytonix palliatricula* (Gn.) 05/02/97 i, 05/03/97 i, 05/25/97 i, 06/01/97 b, 06/05/97 i,
06/30/97 b, 07/06/97 i, 07/13/97 b(2), 07/23/97 b(2), 07/24/97i,
09/02/97 i, 05/02/98 m, 05/04/98 m, 07/04/98 m
- 09560 *Dypterygia rozmani* Berio 06/12/97 s, 06/26/97 i
- 09582 *Nedra ramosula* (Gn.) 03/30/97 i, 04/30/97 b, 09/11/97 s, 03/28/98 m ?
- 09619 *Phosphila miselioides* (Gn.) 06/16/97 s, 08/24/97 s, 09/07/97 s, 09/08/97 s, 06/11/98 i,
06/21/98 m ?, 06/24/98 m, 07/16/98 m
- 09631 *Callopietria mollissima* (Gn.) 06/29/97 b
- 09638 *Amphipyra pyramidoides* Gn. 11/06/96 s(3), 11/07/96 s, 07/12/97 s(2), 07/20/97 s, 08/07/97s
- 09650 *Anorthodes tarda* (Gn.) 04/26/97 i, 04/29/97 b, 04/30/97 b(3), 05/01/97 b(2), 05/03/97b,
05/05/97 b (2), 05/12/97 i, 05/19/97 i, 05/27/97 b, 05/29/97 b,
08/21/97 b, 08/26/97 i, 09/02/97 b(2), s, 09/04/97 s, 09/06/97 s,
09/07/97 b (2), s, 09/15/97 b, s, 09/29/97 s, 04/17/98 m,
04/22/98m?, 04/30/98 m, 05/05/98 i, 05/17/98 m, 08/23/98m,
08/25/98 m, 09/14/98 m, 09/23/98 s
- 09661 *Crambodes talidiformis* Gn. 04/25/98 m, 04/26/98 m
- 09662 *Balsa malana* (Fitch) 05/11/97 b, 08/07/97 i
- 09666 *Spodoptera frugiperda* (J.E.Sm.) 09/07/97s, 09/27/97s?, 07/07/98m, 09/01/98m, 09/01/98s(2)?,
09/02/98 s (3) ?, 09/10/98 m ?, 09/14/98 s, 10/13/98 s (2) ?
- 09669 *Spodoptera ornithogalli* (Gn.) 03/29/97 b, 04/07/97 i, 08/07/97 i, 08/14/97 i, 08/21/97 s,
09/08/97 b, s, 06/16/98 i, 07/15/98 m?, 07/17/98 s?, 07/26/98s
- 09678 *Elaphria versicolor* (Grt.) 05/02/97 b, 05/12/97 i, 05/19/97 i, 06/06/97 b, 07/25/97 b,
07/28/97 i, 07/22/98 m ?, 07/28/98 s ?
- 09681x *Elaphria festivooides* (Gn.) complex 05/03/97 i, 05/25/97 b, 06/14/97 b, 07/23/97 b,
04/15/98 m (2), 06/17/98 i
- 09684 *Elaphria grata* Hbn. 03/28/97 i, 04/03/97 b, 04/12/97 b, i (2), 04/26/97 i (3),
04/30/97 b, 05/03/97 b, 06/25/97 b, 08/10/97 i, 09/02/97 b,
03/28/98 m, 09/13/98 s

Noctuidae (continued)

- 09688 *Galgula partita* Gn. 03/29/97 i (2), 04/03/97 i, 08/17/97 s, 09/22/97 b, 09/26/97 i ?,
02/28/98 i, 03/01/98 i ?, 07/24/98 m ?, 08/25/98 m
- 09689 *Perigea xanthioides* Gn. 07/28/97 i, 07/13/98 m ?, 09/02/98 s
- 09690 *Platysenta videns* (Gn.) 03/29/97 b, 04/30/97 b ?, 05/18/97 b, 06/25/97 b, 07/20/97 s,
08/11/97 b, 09/27/97 b, 06/16/98 m ?, 08/28/98 m
- 09693 *Platysenta mobilis* (Wlk.) 10/12/98 s, 10/28/98 s
- 09699 *Platysenta sutor* (Gn.) 09/15/98 s ?, 09/25/98 s ?, 10/12/98 s, 10/13/98 s, 10/19/98 s?,
10/25/98 s ?
- 09720 *Ogdoconta cinereola* (Gn.) 06/18/97 b, 06/30/97 i, 07/21/97 b, 08/26/97 i, 06/14/98 i
- 09725 *Stiriodes obtusa* (H.-S.) 06/27/97 i, 07/20/97 b (2), 07/04/98 m
- 09766 *Cirrhophanus triangulifer* Grt. 09/02/97 i
- 09815 *Cosmia calami* (Harv.) 06/16/98 m, 06/21/98 m (2), 06/24/98 m
- 09886 *Lithophane patefacta* (Wlk.) 11/18/96 s, 11/19/96 s, 11/25/96 s, 10/08/97 s, 04/02/98 i,
04/08/98 i, 10/02/98 s, 10/10/98 s, 10/11/98 s, 10/12/98 s (2),
10/15/98 s (3), 10/18/98 s (2), 10/23/98 s, 10/24/98 s,
10/27/98 s (3)
- 09892 *Lithophane disposita* Morr. 10/02/98 s, 10/21/98 s(2), 10/24/98s, 10/25/98s, 10/27/98 s(3)
- 09893 *Lithophane hemina* Grt. 11/25/96 s
- 09895 *Lithophane signosa* Wlk. 11/25/96 s
- 09905 *Lithophane viridipallens* Grt. 01/05/97 s
- 09910 *Lithophane antennata* (Wlk.) 12/19/97 i (2), 03/08/98 i, 10/23/98 s
- 09915 *Lithophane grotei* Riley 11/17/96 i, s (3), 11/19/96 s, 11/20/96 i, 11/25/96 s,
01/04/97 s, 02/01/98 i (2)
- 09916 *Lithophane unimoda* (Lint.) 11/25/96 s
- 09929 *Pyreferra hesperidago* (Gn.) 02/25/98 i
- 09933 *Eupsilia vinulenta* (Grt.) 11/18/96 s (3), 11/25/96 s (2), 11/30/96 s, 12/30/96 s,
02/08/98 i (2)
- 09934 *Eupsilia cirripalea* Franc. 11/18/96 s, 04/17/98 m
- 09935 *Eupsilia tristigmata* (Grt.) 03/21/97 i (2), 03/19/98 i
- 09941 *Sericaglaea signata* (French) 01/04/97 i, s (3), 10/08/97 b, 01/05/98 i (2), 02/22/98 i,
03/28/98 i, 04/09/98 i, 10/12/98 s, 10/21/98 s
- 09942 *Xystopeplus rufago* (Hbn.) 03/19/98 i
- 09943 *Metaxaglaea inulta* (Grt.) 11/06/96 s (4), 09/27/97 s, 10/02/98 s
- 09944 *Metaxaglaea viatica* (Grt.) 01/05/98 i, 10/27/98 s
- 09945.2 *Metaxaglaea violacea* Schweitzer 11/06/96 s (2), 12/01/96 s, 02/28/98 i, 10/27/98 s
- 09946 *Epiglea decliva* (Grt.) 11/06/96 s (4), 11/18/96 s (3), 11/19/96 s
- 09950 *Chaetaglaea sericea* (Morr.) 10/10/98 s, 10/10/98 s ?, 10/15/98 s, 10/27/98 s
- 09952 *Eucirroedia pampina* (Gn.) 11/06/96 s, 11/25/96 s, 10/01/97 s, 09/26/98 m
- 09957 *Sunira bicolorago* (Gn.) 11/05/96 i, 11/06/96 s (7), 11/07/96 i, 11/17/96 s,
11/18/96 s (2), 11/19/96 i, 10/11/97 i, 10/12/98 s
- 09961 *Anathix ralla* (Grt.&Rob.) 09/15/97 s(2), 09/18/97 s, 08/30/98 m, 09/10/98 m, 09/26/98 m
- 09989a *Sutyna privata teltowa* (Sm.) 09/27/97 s, 09/29/97 b, 10/06/97 s, 09/25/98 i
- 10014 *Psaphida rolandi* (Grt.) 03/10/97 i

Noctuidae (continued)

10016	<i>Psaphida styracis</i> (Gn.)	03/28/98 m
10019	<i>Psaphida resumens</i> Wlk.	03/01/98 i, 3/04/98 i (2), 04/03/98 m ?
10021	<i>Copivaleria grotei</i> (Morr.)	03/30/97 b, 03/19/98 m
10059	<i>Homohadena badistriga</i> (Grt.)	06/19/97 i ?, 06/27/97 b ?
10065	<i>Homohadena infixa</i> (Wlk.)	06/01/97 i ?, 05/30/98 b ?, 06/24/98 m ?
10288	<i>Orthodes detracta</i> (Wlk.)	06/05/97 i, 06/09/97 s, 06/12/97 i, 06/15/97 s (2), 06/16/97 s, 07/02/97 s, 08/24/97 s, 08/25/97 s, 09/07/97 s, 05/30/98 b, 06/01/98 b?, 06/13/98 m, 06/16/98 m, 06/18/98 m(2), 06/24/98 m
10289	<i>Orthodes goodelli</i> (Grt.)	07/07/97 i, 08/21/97 s, 06/16/98 i, 06/18/98 m, 08/02/98 s, 08/11/98 s
10291	<i>Morrisonia latex</i> (Gn.)	06/26/97 i, 05/03/98 m
10304	<i>Trichordestra legitima</i> (Grt.)	09/11/97 s, 06/13/98 m, 08/20/98 m, 08/22/98 m ?
10368	<i>Lacinipolia meditata</i> (Grt.)	09/19/97 i, 09/21/97 s, 09/22/97 s (2) ?, 09/24/97 s ?, 09/26/97 i ?, 09/28/97 i ?, 09/13/98 s ?, 09/16/98 i ?, m ?, 09/20/98 m, 09/22/98 m ?, 09/25/98 m, m?
10372	<i>Lacinipolia anguina</i> (Grt.)	05/02/98 m
10397	<i>Lacinipolia renigera</i> (Steph.)	05/11/97 b, 05/16/97 b, 05/22/97 i(2), 06/01/97 i, 06/07/97 i ?, 06/18/97 b, 09/06/97 s, 09/11/97 s (4), 09/18/97 s, 09/24/97 s, 04/26/98 i, 09/12/98 s
10411	<i>Lacinipolia laudabilis</i> (Gn.)	09/02/97 b, 09/11/97 s (2), 09/02/98 s, 09/03/98 m, 09/10/98 m
10414	<i>Lacinipolia implicata</i> McD.	09/11/97 s, 09/27/97 s, 09/25/98 i
10438	<i>Pseudaletia unipuncta</i> (Haw.)	11/05/96 s, 11/18/96 s, 03/29/97 i (2), 05/03/97 i, 07/01/97 b, 07/13/97 i, 07/20/97 b, 8/18/97 i, 08/02/98 s
10445	<i>Leucania linda</i> Franc.	11/06/96 s, 06/12/97 s, 06/15/97 s, 08/21/98 m, 10/21/98 s
10456	<i>Leucania adjuta</i> (Grt.)	09/01/98 s
10461	<i>Leucania ursula</i> (Fbs.)	05/25/97 b, 06/02/97 i, 06/14/97 i ?, 06/16/97 b, i, 08/11/97 i, 08/13/97 i, 08/21/97 b, s, 09/07/97 s, 06/13/98 m, 08/07/98 m, 08/09/98 s, m, 08/10/98 s
10487	<i>Orthosia rubescens</i> (Wlk.)	03/26/97 i, 03/28/98 m
10488	<i>Orthosia garmani</i> (Grt.)	03/11/97 b, 02/25/98 i, 03/01/98 i
10495	<i>Orthosia hibisci</i> (Gn.)	03/02/97 i, 03/11/97 b, 03/27/97 i, 03/28/97 b, 03/30/97 b, 02/28/98 i (3), 03/18/98 m, 03/28/98 m
10501	<i>Crocigrapta normani</i> (Grt.)	03/31/98 m
10502	<i>Himella intractata</i> (Morr.)	04/11/97 b, 04/28/97 b
10517	<i>Egira alternans</i> (Wlk.)	04/06/97 i, 04/11/97 b (2), i, 03/30/98 m, 04/18/98 m ?
10518	<i>Achatia distincta</i> Hbn.	03/28/97 i, 05/03/97 i, 03/28/98 m
10521	<i>Morrisonia confusa</i> (Hbn.)	04/07/97 b (2), 04/26/97 b, 04/28/97 b, 04/30/97 b (2), i, 05/10/97 i, 04/08/98 i, m, 04/12/98 m, 04/14/98 m ?, 04/15/98 m, 04/26/98 m, 05/01/98 m, 05/10/98 m
10524	<i>Nephelodes minians</i> Gn.	09/18/97 s, 09/19/97 i, 09/21/97 s (2), 09/25/97 s, 09/27/97 b, s, 09/16/98 m, m ?, 09/26/98 m
10532b	<i>Homorthodes lindseyi</i> (Benj.)	05/18/97 b, 09/11/97 b, 04/30/98 m, 05/11/98 m ?, 05/16/98 i?, 05/17/98 m

Noctuidae (continued)

10567 <i>Ulolonche culea</i> (Gn.)	05/08/97 i, 05/25/97 b, 04/25/98 m, 04/26/98 m, 04/30/98 m?
10585 <i>Orthodes crenulata</i> (Btlr.)	05/08/97 b, 09/11/97 s, 09/22/97 s, 09/29/97 s, 06/17/98 m
10587 <i>Orthodes cynica</i> Gn.	05/17/98 i
10627 <i>Tricholita signata</i> (Wlk.)	08/22/97 i, 08/21/98 m, 09/03/98 m
10648 <i>Agrotis gladiaria</i> Morr.	10/04/97 i, 10/13/98 s
10651 <i>Agrotis venerabilis</i> Wlk.	10/12/97 i, 10/12/98 m
10663 <i>Agrotis ipsilon</i> (Hufn.)	10/30/96 i, 11/18/96 s (2), 11/19/96 s, 07/01/97 b, 09/06/97 b
10664 <i>Agrotis subterranea</i> (F.)	06/11/98 i ?, 08/02/98 m, 10/25/98 s
10675 <i>Feltia tricola</i> (Lint.)	08/16/98 m
10676 <i>Feltia herilis</i> (Grt.)	09/02/97 b
10870 <i>Richia acclivis</i> (Morr.)	09/02/97 s
10891.1 <i>Ochropleura implecta</i> Laf.	04/30/97 b, 05/28/98 b
10903 <i>Euagrotis illapsa</i> (Wlk.)	05/29/97 i, 07/13/97 i, 07/27/97 b, 05/16/98 m, 06/02/98 b, 07/09/98 m, 08/25/98 m
10911 <i>Anicla infecta</i> (Ochs.)	08/10/97 b
10915 <i>Peridroma saucia</i> (Hbn.)	08/01/98 s, 08/02/98 s, 10/02/98 s
10942.1 <i>Xestia dolosa</i> Franc.	05/25/97 b, 07/16/97 b, 09/09/97 i, 09/22/97 s, 09/29/97 s
10944 <i>Xestia smithii</i> (Snell.)	09/12/98 m ?, s, 09/30/98 s, 10/02/98 s
10950 <i>Pseudohermonassa bicarnea</i> (Gn.)	09/01/98 s, 09/14/98 s ?
10955 <i>Agnorisma badinodis</i> (Grt.)	10/13/97 s, 10/19/97 s (2), 10/10/98 s (2), 10/14/98 m ?
10956 <i>Agnorisma bollii</i> (Grt.)	10/19/98 m
10967 <i>Xestia elimata</i> (Gn.)	10/06/97 b, 10/11/97 s
10969 <i>Xestia dilucida</i> (Morr.)	10/06/97 b?, 11/01/97 i, 09/22/98 m
10994 <i>Cerastis tenebrifera</i> (Wlk.)	03/21/97 i, 02/25/98 i, 03/28/98 m, 04/02/98 m
10998 <i>Choephora fungorum</i> Grt.&Rob.	10/04/97 i, 10/10/98 m
11006 <i>Protolampra brunneicollis</i> (Grt.)	09/15/97 b, 09/22/98 m
11029 <i>Abagrotis alternata</i> (Grt.)	10/10/98 m, 10/25/98 s
11068 <i>Heliocoverpa zea</i> (Boddie)	08/22/97 i, 09/30/97 i, 08/16/98 m, 09/03/98 m
11070 <i>Heliothis subflexus</i> Gn.	08/25/97 i
11071 <i>Heliothis virescens</i> (F.)	09/02/98 s
11072 <i>Heliothis phloxiphagus</i> G.&R.	08/09/98 m
11118 <i>Schinia obscurata</i> Stkr.	06/19/97 i
11128 <i>Schinia arcigera</i> (Gn.)	08/26/97 i, 07/22/98 m
11149 <i>Schinia trifascia</i> Hbn.	08/07/97 i